



United States Department of the Interior

OFFICE OF THE SOLICITOR
Intermountain Regional Office
125 S. State Street, Suite 6201
Salt Lake City, UT 84138

October 2, 2019

SENT VIA FIRST-CLASS MAIL

Kent L. Jones, State Engineer
Utah Division of Water Rights
1594 W. North Temple Suite 220
P.O. Box 146300, Salt Lake City, UT 84114-6300

Subject: Letter of Concern Regarding Change Application No. a45058 (Water Right No. 85-39)

Dear Mr. Jones,

The following letter of concern is submitted on behalf of the National Park Service (NPS) concerning Change Application a45058 (Water Right No. 85-39) (Application) filed on August 22, 2019, by the Kanab City Corporation (Applicant), 26 North 100 East, Kanab UT, 84741.

According to the Utah Division of Water Rights (Division), the Applicant seeks to change the point of diversion from an existing well located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$, Section 20, T42S, R6W, SLBM, to up to two new wells to be drilled in various locations within Section 16, T41S, R7W SLBM, a distance of approximately 4.5 miles west of the existing point of diversion. The Application identifies four potential well sites and explains that it intends to drill only one well if that well will provide a sufficient amount of water for use in the planned sand extraction operations; however, it reserves the right to drill up to two wells if necessary. The Application indicates that 600 acre-feet per year (AFY) would be diverted at the proposed point(s) of diversion.

The four proposed new well locations are in Area 85 (Kanab and Johnson Creeks) and are very close (within approximately 200 to 1,000 feet) to the boundary of Area 81 (Virgin River), which largely represents a surface water (topographic) divide. The proposed well locations are adjacent to the area including the East Fork of the Virgin River. The December 4, 1996 Zion National Park Water Rights Settlement Agreement (Agreement), recognizes that the East Fork is a critical source of water for the Park's water-dependent resources, and specifies certain limitations on third-party water development in that area. In addition, the Division's Appropriation Policy for Area 81 indicates that except for a few limited exceptions, the Area's surface and ground waters are considered to be fully appropriated.

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The Sevier Fault runs in a northeasterly direction along the boundary between Area 85 and 81. The NPS believes that groundwater may flow across the Sevier Fault between these two Areas west of Red Knoll. According to a geologic map of this area,¹ the displacement across the fault is not significant enough to eliminate contact between the Navajo Sandstone units and associated aquifers (*i.e.*, Navajo Sandstone main body and Lamb Point Tongue of Navajo Sandstone). Therefore, if the Application were to be approved, it appears that the subsequent groundwater pumping could increase interbasin flow by capturing water from Area 81, specifically from the East Fork of the Virgin River Basin. Groundwater that is captured from this region of Area 81 will eventually impact and reduce flow in the East Fork of the Virgin River, which flows through the Park, by reducing the discharge of seeps and springs that contribute to the flow of the East Fork of the Virgin River.

While the NPS believes that this Application may capture groundwater from Area 81, there is not sufficient data to provide an estimate of the magnitude or timing of this effect. Therefore, and depending on funding, the NPS plans to initiate a study with the U.S. Geological Survey entitled "Improved Understanding of the Hydraulic Connection of the Navajo Sandstone across the Sevier Fault" in Fiscal Year 2020. This study will improve our understanding of the hydrologic communication within the Navajo Sandstone aquifers across the Sevier Fault in the Red Knoll area, encompassing the area of this Application. The NPS invites the State Engineer's Office to participate in this study.

The NPS also remains very concerned about the potential effects of an approval of this Application when viewed collectively with other upcoming water developments. For instance, the NPS is aware that the Southern Red Sands has a similar agreement with the Kane County Water Conservancy District for an additional 600 AFY to support its sand extraction operations in the general vicinity of this Application. In addition, the Agreement subordinates the Park's water rights to one or more new reservoirs with a cumulative active storage capacity of 6,750 AFY. The future site of a planned reservoir will be located on another tributary to the East Fork of the Virgin River. *See* Agreement, Appendix E. Given these competing present and future demands for water in this area, the unknown hydrologic connection between Area 85 and Area 81, and the close proximity of the proposed points of diversion to Area 81, the NPS is concerned about the long-term impacts on the water-dependent resources of the Park.

Consequently, the NPS requests that the State Engineer carefully consider this Application and its potential to withdraw water from Area 81. In that regard, the NPS requests that if this Application is approved, the approval will include certain monitoring requirements to allow the Division, the NPS, and others to better understand the effects of groundwater extraction so close to the boundary between Areas 85 and 81. Should the data confirm that groundwater withdrawals from the currently proposed well(s) are capturing groundwater from Area 81, the

¹ Hayden, 2008. Interim geologic map of the Mount Carmel Quadrangle, Kane County, Utah. Utah Geological Survey Open-File Report 531, Plate 1.

NPS respectfully requests that the Division quantify the amounts captured and account for such depletions in its calculation of the total depletions from the East Fork of the Virgin River, consistent with the Agreement.

Sincerely,

/ Elizabeth A. Schulte /

Elizabeth A. Schulte

Attorney-Advisor

Office of the Solicitor, Intermountain Region

elizabeth.schulte@sol.doi.gov

cc: Jeff Bradybaugh, Superintendent, Zion National Park
Don Weeks, National Park Service, Intermountain Region